

CLAIMS

1. An electroluminescent device comprising a substrate (11), a light emissive structure (LED1, 2, 3) on the substrate, the light emissive structure comprising organic light emissive material (16-1, 16-2, 16-3) disposed between first and second electrode layers (12-1, 17-1) for supplying charge carriers into the organic material to cause it to emit light, the first and second electrode layers respectively underlying and overlying the organic light emissive material, and an electrically conductive region (12-2) underlying the light emissive structure on the substrate, the second overlying electrode layer and the underlying conductive region being in electrical connection through the thickness of the organic light emissive material.
2. A device according to claim 1 including a transistor (T2) on the substrate having its source drain path connected to the first, underlying electrode (12-1) for controlling current flowing through the light emissive structure.
3. A device according to claim 1 or 2 wherein the underlying conductive region (12-2) has been treated in an area (19-1) thereof in such a way as to repel the organic light emissive material, and the second electrode (17-1) extends transversely through the thickness of the organic light emissive material and is electrically connected to the underlying conductive region in said treated area.
4. A device according to claim 1 or 2 wherein the underlying conductive region is formed with electrically conductive protuberances (26) which extend through the thickness of the organic light emissive material (16-1), and the second electrode (17-1) is electrically connected to said protuberances.
5. A device according to claim 1 or 2 wherein the organic light emissive material has been damaged in an area (27) thereof overlying the second

conductive region (12-2), and the second electrode is electrically connected to the underlying conductive region through the damaged area.

6. A device according to any preceding claim including a first and a
5 second said light emissive structure, wherein
for the first light emissive structure (LED 1), the second overlying electrode layer (17-1) is connected to the first underlying conductive region (12-2), and
for the second light emissive structure (LED 2), the first underlying electrode layer (12-2) is connected to said first underlying conductive region,
10 whereby the light emissive structures are electrically connected in series.

7. A device according to claim 6 wherein a common layer (12-2) provides
the first underlying conductive region for the first light emissive structure and
the first electrode layer of the second light emissive structure.

15 8. A device according to claim 6 or 7 including at least one further said
light emissive structure (LED 3) connected in series with the first and second
light emissive structures.

20 9. A method of fabricating an electroluminescent device comprising
fabricating a light emissive structure (LED1, 2, 3) on a substrate (11), the light
emissive structure comprising organic light emissive material (16-1, 16-2, 16-3)
disposed between first and second electrode layers (12-1, 17-1) for supplying
charge carriers into the organic material to cause it to emit light, the first and
25 second electrode layers respectively underlying and overlying the organic light
emissive material, and an electrically conductive region (12-2) underlying the
light emissive structure on the substrate, and forming an electrical connection
between the second overlying electrode layer and the underlying conductive
region through the thickness of the organic light emissive material.

30 10. A method according to claim 9 including treating the underlying
conductive region (12-2) in an area (20-1) thereof in such a way as to repel the

organic light emissive material, and fabricating the second electrode (17-1) so as to extend transversely through the thickness of the organic light emissive material (16-1) and be electrically connected to the underlying conductive region (12-2) in said treated area.

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11. A method according to claim 10 including coating the underlying conductive region with a material (20) that is repellent to the light emissive material.

10 12. A method according to claim 11 including applying the coating (20) to said first underlying electrode (12-1) and to the underlying region (12-2) and selectively removing portions of the repellent coating on the first underlying electrode.

15 13. A method according to any one of claims 9 to 12 including treating regions of the device (21, 23, 25) such as to enhance wetting of the light emissive layer (16) on the first electrode layer (12-1).

20 14. A method according to claim 9 including forming the underlying conductive region (121-1) with electrically conductive protuberances (26) which extend through the thickness of the organic light emissive material (16-1), and electrically connecting the second electrode (17-1) to said protuberances.

25 15. A method according to claim 9 including treating the organic light emissive material an area (27) thereof overlying the second conductive region to become electrically conductive, and electrically connecting the second electrode to the underlying conductive region through the treated area.

30 16. An electroluminescent device fabricated by a method as claimed in any one of claims 9 to 13.

17. An electroluminescent device as claimed in any one of claims 1 to 8 including a matrix ($P_{x,y}$) of said light emissive structures configured on said substrate.